

Notice of Allowability

Application No.

09/960,285

Examiner

Marie R. Yamnitzky

Applicant(s)

TSUBOYAMA ET AL.

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to telephonic interview with Jason Okun on 06 August 2004.
2. ☒ The allowed claim(s) is/are 35, 36, 39 and 41-43 (renumbered as 1-6, respectively).
3. ☒ The drawings filed on 24 September 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 08062004.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for the examiner's amendment to the claims was given in a telephone interview with Jason Okun on August 06, 2004. The telephone interview and examiner's amendment are in lieu of a formal written response to the Office action mailed June 16, 2004.

The examiner's amendment to the specification and abstract was not discussed during the August 6th telephone interview.

The amendment to the specification corrects spelling and grammatical errors not previously noted by the examiner. The amendment to the specification also incorporates a correction previously made by the examiner to the paper file; of which applicant was notified in the Office action mailed December 09, 2003.

The abstract is not amended, per se, but is presented on a separate page. (The replacement abstract previously provided by applicant was not on a separate page.)

The specification has been amended as follows:

The paragraph at page 37, lines 21-25 (previously amended by applicant's amendment received September 25, 2003) has been amended as follows:

A comparative luminescence device was prepared and evaluated in the same manner as in Examples 1-10 except that ~~the Pt~~ the Ir coordination compound (metal coordination compounds 1-10) was changed to ~~Ir-phenylpyrimidine~~ Ir-phenylpyridine complex (Ir(ppy)_3) shown below.

The paragraph at page 42, lines 19-23 has been amended as follows:

A comparative luminescence device was prepared and evaluated in the same manner as in ~~Example~~ Examples 11-16 except that the metal coordination compound of formula (1) was changed to ~~Ir-phenylpyrimidine~~ Ir-phenylpyridine complex (Ir(ppy)_3) shown below.

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The abstract is replaced with the following:

A luminescence device that has an organic compound layer disposed between a pair of electrodes. This organic compound layer contains a metal coordination compound represented by the following formula (1)

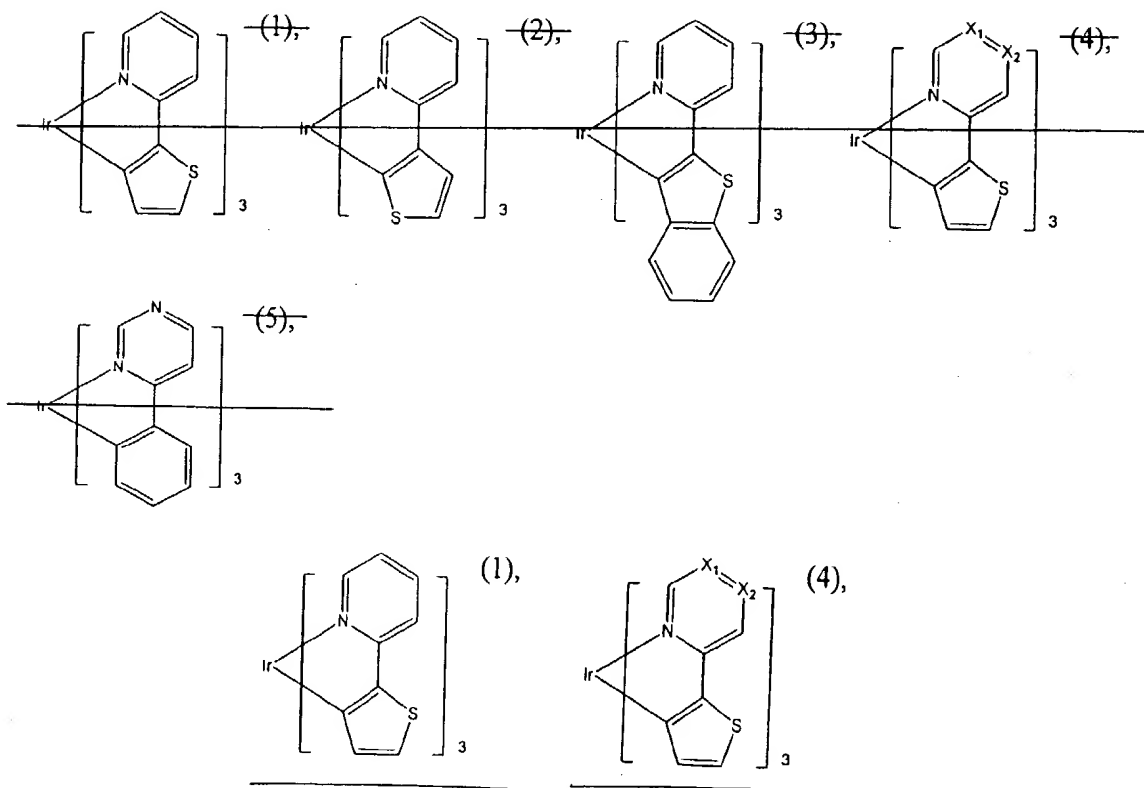


wherein M is Ir, Rh or Pd; n is 2 or 3; CyN is a substituted or unsubstituted cyclic group containing a nitrogen atom connected to M and capable of containing another nitrogen atom and/or sulfur atom; and CyC is a substituted or unsubstituted cyclic group containing a carbon atom connected to M and capable of containing a nitrogen atom and/or a sulfur atom.

The claims have been amended as follows:

1-34. (Canceled)

35. (Currently Amended) A luminescence device, comprising an organic compound layer comprising at least one species of a metal coordination compound according to any one of formulas ~~(1)-(5)~~ (1) or (4):



wherein a ligand of the compound of said formula (1) has at least one fluorinated alkyl substituent,

wherein one of X₁ and X₂ of the compound of said formula (4) is a nitrogen atom and one of X₁ and X₂ is a carbon atom, and

wherein a hydrogen atom in ligands of said formulas ~~(1)-(5)~~ (1) and (4) may optionally be replaced with a substituent selected from the group consisting of a halogen atom; a trialkylsilyl group containing three linear or branched alkyl groups each independently having 1-8 carbon atoms; and a linear or branched alkyl group having 1-8 1-20 carbon atoms, which can include at least one methylene group, or at least two non-neighboring methylene groups, which can be replaced with -O-, -S-, -C(O)-, -C(O)-O-, -O-C(O)-, -CH=CH- or -C≡C-, and optionally including a hydrogen atom, which can be replaced with a fluorine atom,

with the proviso that a ligand of the compound of said formula (1) has at least one of said linear or branched alkyl groups having 1-20 carbon atoms having at least one hydrogen atom replaced with a fluorine atom.

36. (Previously Presented) The device according to claim 35, wherein the metal coordination compound is the compound of said formula (1).

37-38. (Canceled)

39. (Previously Presented) The device according to claim 35, wherein the metal coordination compound is the compound of said formula (4).

40. (Cancelled)

41. (Previously Presented) The device according to claim 35, wherein the device emits light exhibiting an emission spectrum peak wavelength of at least 550 nm.

42. (Previously Presented) The device according to claim 35, wherein the metal coordination compound contains a ligand having a dipole moment of at most 7 debye.

43. (Previously Presented) A flat panel display comprising a luminescence device according to claim 35.

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The amendment to claim 35 is supported by the original disclosure (e.g. page 9 of the specification and original claim 1).

Regarding claim interpretation, said "linear or branched alkyl group having 1-20 carbon atoms" can have one methylene group or at least two non-neighboring methylene groups replaced with the divalent groups specified in claim 35. Therefore, the fluorinated substituent required for the compound of formula (1) as set forth in the last three lines of claim 35 may be one in which replacement of one or more methylene groups occurs as specified earlier in the claim.

Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax number for Art Unit 1774 is (703) 872-9306 for all official faxes. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

MRY
August 06, 2004



MARIE YAMNITZKY
PRIMARY EXAMINER

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